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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,082	08/17/2001	Yasushige Nakamura	011040	2870

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

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DATE MAILED: 09/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,082

Applicant(s)

NAKAMURA ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-14 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, drawn to a toner, classified in class 430, subclass 108.21.
- II. Claims 7-10, drawn to a method of using the toner, classified in class 430, subclass 124.
- III. Claims 11-14, drawn to an apparatus for forming a color image, classified in class 399, subclass 222.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in another and materially different process such as forming an ionographic image on the surface of a dielectric support, developing the image with the toner of group I, and fixing the toner to the surface of the support.

Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by hand such as forming an electrostatic latent image by applying a uniform charge to the surface of a photoreceptor by spraying corona onto the surface of the photoreceptor, imaging the surface of the photoreceptor by placement of a static-free mask over

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the surface of the photoreceptor and exposing the masked photoreceptor to light, removing the mask, sprinkling toner onto the light-exposed photoreceptor, removing unattached toner from the surface of the photoreceptor to show a toner image by tilting the photoreceptor so unattached toner flows from the surface of the photoreceptor, contacting the toner image with a receiver by hand application, and fixing the transferred image by placing the transferred toner image under a hand activated flash bulb in a photofixing system.

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as in a dielectric image process as discussed in the relationship of Inventions I and II above. See MPEP § 806.05(d). Note that the toner does not provide a structural limitation to the apparatus and thus does not add patentable limitations to the apparatus. The toner is a material acted upon by the apparatus because it is consumed during the imaging operation of the apparatus. See MPEP 2115.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Donald Hanson on 27 August 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

✓ The claims are indefinite because it is unclear how the "use" of the toner in a photofixing system limits the article claims. There is no "use" specified (e.g., a specific process step). Furthermore, the claims are directed to an article, not a method of using the toner. It is unclear how the "use" is limiting the elected article claims.

✓ Claim 4 is indefinite because the toner by definition in claim 1 includes the calixarene and IR absorber yet claim 4 states that the toner is mixed with calixarene and IR absorber compound. The article cannot be mixed with the compounds that comprise the article in the product-by-process claim.

✓ Claim 5 is indefinite because it is unclear how the photofixing system is used and it is unclear if the limitation is describing a property or capability of the toner. Note that the claims are limited to the article (i.e., toner) and not to the method of using the toner. It is therefore unclear if applicants are claiming the process or product in claim 5.

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~ Claim 6 is similarly rejected because it is unclear if applicants are claiming the process or product and it is unclear how the process is limiting the "using" step of claim 6.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

✓ Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soeda *et al.* in US Patent 5,916,721 in view of Yamanaka *et al.* in US Patent 5,049,467.

Soeda discloses a color toner comprising a binder resin, an azomethine dye that functions as a colorant, and a charge control agent (Abstract; col. 2, l. 15-19; col. 31, l. 35-40). Preferred charge control agents are colorless agents such as calixarenes (col. 31, l. 35-40). Azomethine dyes of the invention absorb in wavelengths of 800 to 1400 nm (col. 8, l. 52-53) and are used in an amount of 0.01 to 15 parts by weight based on the binder resin (col. 31, l. 5-12).

The reference does not disclose the specific calixarene charge control agent of the instant claims.

Yamanaka discloses a calixarene charge control agent for a toner given by the formula (I) such as compound (1) in column 4. These charge control agents are nearly colorless and are used in amounts of from 0.1 to 10 parts by weight per 100 parts of the binder resin (col. 3, l. 9-11).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the exemplified calixarene of Yamanaka in the invention of Soeda because Soeda specifically calls for colorless calixarene charge control agents and Yamanaka discloses specific calixarenes that serve this function. It is *prima facie* obvious to use a known compound for its known function when called for by a reference. The artisan would also have found it obvious to optimize the amounts of components based on the references' teachings of useful material amounts for the IR absorber and charge control agent. The artisan would have found it obvious to prepare the IR absorbing agent to have absorption within the disclosed range, such as at the specifically disclosed 800 nm, because the reference teaches the absorption within the range is desired. Optimization near a specifically disclosed wavelength would have been obvious to give the desired result of the invention. Claims 5 and 6 are rejected because the methods of using the toner do not properly limit the toner claims for the reasons given above in the section 112 rejections.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kushino *et al.* in US Patent 6,136,488 in view of Yamanaka *et al.* in US Patent 5,049,467.

Kushino discloses a flash fixing toner having a binder resin, a colorant, an IR absorbing agent and a colorless charge control agent (Abstract; col. 3, l. 1-22; col. 20, l. 12-20). The preferred IR absorbing agent is a phthalocyanine compound such as shown in columns 3, 4, and 5. The preferred "largest absorbing wavelength" of the IR absorbing agent is between 750 and 1100 nm (col. 2, l. 54-56; col. 4, l. 31-33; col. 6, l. 34-40). The IR absorber is used in an amount of from 0.01 to 5 weight percent (col. 17, l. 15-19).

The reference does not disclose the specific charge control agent of the instant claims.

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Yamanaka discloses a calixarene charge control agent for a toner given by the formula (I) such as compound (1) in column 4. These charge control agents are nearly colorless and are used in amounts of from 0.1 to 10 parts by weight per 100 parts of the binder resin (col. 3, l. 9-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the exemplified calixarene of Yamanaka in the invention of Kushino because Kushino specifically calls for colorless charge control agents and Yamanaka discloses specific colorless calixarenes that serve this function. It is *prima facie* obvious to use a known compound for its known function when called for by a reference. The artisan would also have found it obvious to optimize the amounts of components based on the references' teachings of useful material amounts for the IR absorber and charge control agent. The artisan would have found it obvious to prepare the IR absorbing agent to have absorption within the disclosed range, such as at the specifically disclosed 750 nm, because the reference teaches the absorption within the range is desired. Optimization near a specifically disclosed wavelength would have been obvious to give the desired result of the invention. Claim 5 is rejected because the methods of using the toner do not properly limit the toner claims for the reasons given above in the section 112 rejections.

Claims 1, 2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru *et al.* in US Publication 2002/0098432 in view of Yamanaka *et al.* in US Patent 5,049,467.

Ishimaru discloses an optical fixing toner comprising a binder resin, a quinacridones pigment, a calixarene charge control agent, and an IR absorbing agent such as those shown in Figures 1B through 3B (see preparation of Toners 7-38, ¶¶ [0058] - [0072]). The toners are fixable under an IR flash of 0.5 to 3.0 J/cm² (¶ [0055]). The exemplified IR absorbing agents in

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the reference are the same as disclosed in the specification as having the requisite absorption peak (spec. p. 18, l. 22-34). Thus, it appears that the IR absorbers in the reference inherently have IR absorption peak(s) within the scope of the claims.

The reference does not disclose the specific calixarene charge control agent of the instant claims.

As discussed above, Yamanaka discloses a calixarene charge control agent for a toner given by the formula (I) such as compound (1) in column 4. These charge control agents are nearly colorless and are used in amounts of from 0.1 to 10 parts by weight per 100 parts of the binder resin (col. 3, l. 9-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the exemplified calixarene of Yamanaka in the invention of Ishimaru because Ishimaru uses calixarene charge control agents in the fabricated toners but does not specify the formula of the calixarene. Yamanaka discloses specific calixarenes by formula that serve the charge control function in toners and fall within the scope of the instant claims. It is *prima facie* obvious to use a known compound for its known function when called for by a reference. The artisan would also have found it obvious to optimize the amounts of components based on the references' exemplified toner formulations as seen in the Figures.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

**CHRISTOPHER RODEE
PRIMARY EXAMINER**

cdr
September 4, 2002